

1999  
C200 Receipt

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Robert I. Garver et al. :  
: :  
Appln. No. 09/359,593 : Art Unit: 1652  
: :  
Filed: July 23, 1999 : Examiner: TO BE ASSIGNED  
: :  
For: CONTROLLED RELEASE OF BIOACTIVE : Atty Docket: JHV-009.01  
SUBSTANCES : :

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, in an envelope addressed to Customer Corrections Branch, Assistant Commissioner for Patents, Washington, D.C. 20231 on September 27, 1999.

  
Ariel Collazo

**REQUEST FOR CORRECTION OF FILING RECEIPT**

**Customer Corrections Branch**  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Enclosed is a copy of the Filing Receipt for the above-referenced application.

Please correct the title of the invention from "CONTROLLED DELIVERY OF BIOACTIVE SUBSTANCES" to --**CONTROLLED RELEASE OF BIOACTIVE SUBSTANCES**" as originally submitted on the first page of the specification (copy attached).

Please insert the residences of the inventors as follows:

Robert I. Garver - Hoover, AL;

Subramanian Kalyanasundaram - Gaithersburg, MD;

Kam W. Leong - Ellicott City, MD

Please correct the spelling of inventor "Subramanin" to --**Subramanian**-- and insert the middle initial "W." to the name of "**Kam W. Leong**--.

Should there be any questions concerning this request, please contact the undersigned at (617) 832-1169.

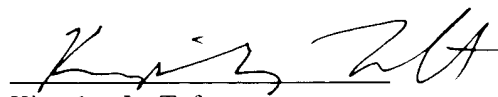
Respectfully submitted,

FOLEY, HOAG & ELIOT LLP

September 27, 1999

Date

Patent Group  
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A handwritten signature in dark ink, appearing to read 'Kingsley L. Taft', written over a horizontal line.

Kingsley L. Taft

Reg. No. 43,946

FILING RECEIPT



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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
09/359,593	07/23/99	1652	\$0.00	JHV-009.01	0	48	9

FOLEY HOAG & ELIOT LLP  
ONE POST OFFICE SQUARE  
BOSTON MA 02109-2170



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Applicant(s) ROBERT I GARVER, RESIDENCE NOT PROVIDED; SUBRAMANIN  
KALYANASUNDARAM, RESIDENCE NOT PROVIDED; KAM LEONG,  
RESIDENCE NOT PROVIDED.

CONTINUING DATA AS CLAIMED BY APPLICANT-  
PROVISIONAL APPLICATION NO. 60/093,946 07/23/98

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 08/31/99  
TITLE  
CONTROLLED DELIVERY OF BIOACTIVE SUBSTANCES

PRELIMINARY CLASS: 435

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J. E. LLP  
PATENT DEPT.

DATA ENTRY BY: HINES, BRENDA

TEAM: 06 DATE: 08/31/99

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The words "new," "improved," "improvement," "improvements in or relating to" are not included as the first words in the title of an application because a patent application is, by nature, a new idea or improvement.

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**Related Application Information**

This Application claims the benefit of priority under 35 U.S.C. § 119(e) to  
5 Provisional Application 60/093,946, filed July 23, 1998, the specification of which is  
incorporated by reference in its entirety.

**Acknowledgment of Government Rights**

The present invention was made in part with support from the U.S. Government under  
10 a grant from the National Institutes of Health. The U.S. Government has certain rights in this  
invention.

**Introduction**

The effectiveness of gene therapy is limited in part by the delivery systems used to  
15 administer the gene of interest. In general, gene therapy involves the transfer of genetic  
material into the cells of a patient to provide expression of delivered genes. However, the  
development of clinical applications of gene therapy has been limited by, among other things,  
inefficient gene transfer, transient expression, immune rejection, and cytotoxicity. Such a  
result is not entirely unexpected, because many of the steps required for gene therapy,  
20 including cell membrane penetration, intracellular trafficking and nuclear entry of genes, are  
incompletely understood.

One means of addressing some of these issues involves the use of recombinant  
viruses. However, the therapeutic utility of recombinant viruses, in particular of  
adenoviruses, is limited in part by difficulties in directing the viruses to specific sites, and by  
25 the requirement for bolus administration, both of which limit the efficiency of target tissue  
infection. Recombinant adenovirus has emerged as a leading vector for the delivery of new  
genes to mammalian cells. Advantages include the extensive understanding of the virus  
biology, well-established methods for the generation of high titer recombinant adenoviruses,  
and generally high expression of the viral transgene, among others (Curiel et al., Gene  
30 Therapy for Diseases of the Lung 104:29-52 ). Two important limitations of the existent